UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
NG, FAN

ART UNIT	PAPER NUMBER
4145	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
	10/567,572	QUICK ET AL.
Office Action Summary	Examiner	Art Unit	
	FAN NG	4145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>08 February 2006</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-60</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-6,8-24,26-32,34,42,46-48 and 51-53</u> is/are rejected.
7)☒ Claim(s) <u>7,11,25,33,35-41,43-45,49,50 and 54-60</u> is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☒ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>05/17/2006</u>.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Specification

Content of Specification

(a)   Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

(b)   Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

(c)   Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

(d)   The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).

(e)   Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

(f)   Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:

   (1)   Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

(2) <u>Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98</u>: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

(g) <u>Brief Summary of the Invention</u>: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(h) <u>Brief Description of the Several Views of the Drawing(s)</u>: See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

(i) <u>Detailed Description of the Invention</u>: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(j) <u>Claim or Claims</u>: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

(k)   Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

(l)   Sequence Listing, See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

1.   *There is no summary indicated.*

Claim Objections

1.   Claim(s) 3, 8, 10, 12 is/are objected to because of the following informalities: One or more word(s) in the claim(s) is spelled wrong, specially, "recognising". Appropriate correction is required.

2.   Because of claim(s) 4-7, 9, 11, 13-14 is/are objected, therefore its dependent claims … is/ are also objected.

Claim Rejections - 35 USC § 103

3.   Claims 1-3, 8, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parsa (6480525) in view of Brandli (2003/0072325).

4.   As per claim 1, **Parsa teaches** a data frame **(Fig. 7, shows data frame)** for use

in a radio frequency communications network **(col. 1, line 24: wireless**

communication which is use radio frequency to transmit data), the data frame

including data that is coded so as to be perceived by a device receiving the data frame

(col. 3, line 56-60: collision detection (CD) signature in the preamble, means the

data frame is coded. And line 64-66: The base station identifies all the different

CD, which means perceived by a device),

5.   **Parsa doesn't teach** as a collision when the device is already receiving data

from another source.

Brandli teaches as a collision when the device is already receiving data from another

source **([0015]: recognizes occurring collisions for an intermittent communication**

between a terminal and a multitude of portable...).

6.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Brandli into Parsa, since Parsa

suggests use signature to detect from different users and Brandli suggests the

beneficial of knowing the collision, such as to know the collision will eliminate further

collision, in order to achieve better bit error rate, they are in the analogues art of

collision detection and avoidance.

7.   As per claim 2, **Parsa and Brandli teach** a data frame according to claim 1

wherein **Parsa teaches** the coded data is at the beginning of the data frame **(col. 3,**

line 55-65: signature is contain in the preamble, and preamble is at the beginning

to a data frame).

As per claim 3, **Parsa and Brandli teach** a method of detecting a collision between two

transmissions in a radio frequency network of devices, the method including;

8.   **Parsa teaches** transmitting from a first device, a first data frame according to

claim 1 **(Fig. 2, user i transmit packet 1)**; transmitting from a second device, a second

data frame according to the data frame of claim 1 **(Fig. 2, user i+1 transmit packet 1)**;

9.   and detecting a coded data sequence from the second data frame while

receiving the first data frame **(Know the first and second data frame just labels, they**

are represent different data frames. Col. 3, line 55-65: each mobile station

seeking access to the channel…, and base station receives one or a plurality of

CD preambles. This indicates that there are more than one transmitters want to

access the same channel, and Fig. 2, each user's transmits at a roughly the same

time, but not exactly the same time, thus this creates a scenario than detected a

second frame, while receiving the first frame. In addition, each frame is code with

signature (col. 3, line 55-60), and the receiver (base station) detecting them (col. 3,

line64-66)),

10.   **Parsa doesn't teach** and recognizing the resulting data sequence as indicating a collision.

Brandli teaches and recognizing the resulting data sequence as indicating a collision **([0015]: recognizes occurring collisions for an intermittent communication between a terminal and a multitude of portable...)**.

11.   Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Brandli into Parsa, since Parsa suggests use signature to detect from different users and Brandli suggests the beneficial of knowing the collision, such as to know the collision will eliminate further collision, in order to achieve better bit error rate, they are in the analogues art of collision detection and avoidance.

12.   As per claim 8, **Parsa and Brandli teach** a radio communication system including at least three devices, in use, the first device transmits a first data frame according to claim 1, a second device transmits a second data frame according to claim 1; **Parsa teaches** and a third device receives the first and second data frames and detects the coded data from the second data frame while receiving the first data frame **(the third device is the base station. col. 3, line 56-60: collision detection (CD) signature in the preamble, means the data frame is coded. And line 64-66: The base station identifies all the different CD, which means perceived by a device)**,

...

13.   **Parsa doesn't teach** … and recognizes the resulting data sequence as

indicating a collision.

Brandli teaches … and recognizes the resulting data sequence as indicating a collision

([0015]: recognizes occurring collisions for an intermittent communication

between a terminal and a multitude of portable…).

14.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Brandli into Parsa, since Parsa

suggests use signature to detect from different users and Brandli suggests the

beneficial of knowing the collision, such as to know the collision will eliminate further

collision, in order to achieve better bit error rate, they are in the analogues art of

collision detection and avoidance.

15.   As per claim 12, **Parsa and Brandli teach** a transceiver for use in a radio

communication system including at least two other transceivers, in use, a first of the

other transceivers transmits a first data frame according to claim 1, and the second

other transceiver subsequently transmits a second data frame according to claim 1,

Parsa teaches the transceiver, in use, upon receiving the coded data from the second

data frame while receiving the first data frame **(the transceiver is the base station.**

col. 3, line 56-60: collision detection (CD) signature in the preamble, means the

data frame is coded. And line 64-66: The base station identifies all the different

CD, which means perceived by a device), …

16. **Parsa doesn't teach** …recognizes the resulting data sequence as indicating a collision.

Brandli teaches …recognizes the resulting data sequence as indicating a collision

17. **([0015]: recognizes occurring collisions for an intermittent communication between a terminal and a multitude of portable…)**.

Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Brandli into Parsa, since Parsa suggests use signature to detect from different users and Brandli suggests the beneficial of knowing the collision, such as to know the collision will eliminate further collision, in order to achieve better bit error rate, they are in the analogues art of collision detection and avoidance.

Claims 4-6, 9-10, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parsa (6480525) in view of Brandli (2003/0072325) and further in view of Nelson (2001/0033579).

18. As per claim 4, **Parsa and Brandli teach** a method according to claim 3

19. **Parsa and Brandli do not teach** wherein upon detecting the resulting data sequence, transmitting a collision acknowledge signal to inform the first device that its transmission was interrupted.

Nelson teaches wherein upon detecting the resulting data sequence, transmitting a

collision acknowledge signal to inform the first device that its transmission was

interrupted **([0113]: feedback message … indicating that a collision was detected)**.

20.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Nelso into Parsa, since Parsa

suggests use signature to detect from different users and Nelso suggests the beneficial

of acknowledge collision, such as the transmitter will know the collision therefore

eliminate further transmission, in order to achieve better bit error rate, they are in the

analogues art of collision detection and avoidance.

21.

As per claim 5, **Parsa, Brandli and Nelso teach** a method according to claim 4 wherein

Parsa and Brandli do not teach the collision acknowledge signal is transmitted after

all the data frames are received.

Nelso teaches the collision acknowledge signal is transmitted after all the data frames

are received **([0112]: determine if a collision occurs in a time slot…Note, each data

frame is sent in one time slot, thus in order to detect collision, frame must all

arrived in a particular time slot, after that acknowledge can be send. Moreover,

[0113]: analyzing the received message according to redundancy check…, it is

inherent, that a complete data frame must be received, in order to use

redundancy check)**.

22.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Nelso into Parsa, since Parsa

suggests use signature to detect from different users and Nelso suggests the beneficial

of acknowledge collision, such as the transmitter will know the collision therefore

eliminate further transmission, in order to achieve better bit error rate, they are in the

analogues art of collision detection and avoidance.

23.

As per claim 6, **Parsa, Brandli and Nelso teach** a method according to claim 4 wherein

Parsa, Brandli do not teach upon detecting the resulting data sequence, transmitting a

collision signal that is itself perceived by one or more other devices as a collision.

Nelso teaches upon detecting the resulting data sequence, transmitting a collision

signal that is itself perceived by one or more other devices as a collision **([0113]:**

feedback of collision message by base station, so base station knows there is a

collision. The message to send to remote station that "indicating that a collision

was detected" thus means the remote station is also know there is a collision).

24.

Thus it would have been obvious to one of ordinary skill in the art at the time of the

invention was made to implement the teachings of Nelso into Parsa, since Parsa

suggests use signature to detect from different users and Nelso suggests the beneficial

of acknowledge collision, such as the transmitter will know the collision therefore

eliminate further transmission, in order to achieve better bit error rate, they are in the

analogues art of collision detection and avoidance.

25.   As per claim 9, **Parsa, Brandli and Nelso teach** a system according to claim 8

wherein **Parsa and Brandli do not teach** upon detecting the resulting sequence, the

receiving device transmits a collision acknowledge after receiving the complete second data frame.

Nelso teaches upon detecting the resulting sequence, the receiving device transmits a collision acknowledge after receiving the complete second data frame **([0112]: determine if a collision occurs in a time slot…Note, each data frame is sent in one time slot, thus in order to detect collision frame must all arrived in a particular time slot, after that acknowledge can be send. Moreover, [0113]: analyzing the received message according to redundancy check…, it is inherent, that a complete data frame must be received, in order to use redundancy check)**.

26.   Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Nelso into Parsa, since Parsa suggests use signature to detect from different users and Nelso suggests the beneficial of acknowledge collision, such as the transmitter will know the collision therefore eliminate further transmission, in order to achieve better bit error rate, they are in the analogues art of collision detection and avoidance.

27.

As per claim10, **Parsa, Brandli and Nelso teach** a system according to claim 9 wherein **Parsa, Brandli do not teach** upon recognizing the resulting data sequence, the receiver transmits a collision signal to other devices which itself will be perceived by the other devices as a collision.

28.   **Nelso teaches** upon recognizing the resulting data sequence, the receiver

transmits a collision signal to other devices which itself will be perceived by the other

devices as a collision **([0113]: feedback of collision message by base station, so**

base station knows there is a collision. The message to send to remote station

that "indicating that a collision was detected" thus means the remote station is

also know there is a collision).

29.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Nelso into Parsa, since Parsa

suggests use signature to detect from different users and Nelso suggests the beneficial

of acknowledge collision, such as the transmitter will know the collision therefore

eliminate further transmission, in order to achieve better bit error rate, they are in the

analogues art of collision detection and avoidance.

30.   As per claim13, **Parsa, Brandli teach** a transceiver according to claim 12

wherein **Parsa and Brandli do not teach** the transceiver will continue to receive the

first and second data frames until the transceiver detects an end of frame marker in the

data frame which finishes last, at which time, the transceiver will transmit a collision

acknowledge.

Nelso teaches the transceiver will continue to receive the first and second data frames

until the transceiver detects an end of frame marker in the data frame which finishes last

(it is inherent, that transceiver will continue to receive data from first and second

device until the end, in fact [0113] use redundancy check which means all the data frame must arrive at the receiver, in order to do the check), at which time, the transceiver will transmit a collision acknowledge **([0113])**.

31.   Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Nelso into Parsa, since Parsa suggests use signature to detect from different users and Nelso suggests the beneficial of acknowledge collision, such as the transmitter will know the collision therefore eliminate further transmission, in order to achieve better bit error rate, they are in the analogues art of collision detection and avoidance.

32.   As per claim 14, **Parsa, Brandli and Nelso teach** a transceiver according to claim 13 wherein **Parsa, Brandli do not teach** upon receiving the coded data from the second data frame, the transceiver will transmit a collision signal which will itself be perceived by the other transceivers as a collision.

Nelso teaches upon receiving the coded data from the second data frame, the transceiver will transmit a collision signal which will itself be perceived by the other transceivers as a collision **([0113]: feedback of collision message by base station, so base station knows there is a collision. The message to send to remote station that "indicating that a collision was detected" thus means the remote station is also know there is a collision)**.

33.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Nelso into Parsa, since Parsa

suggests use signature to detect from different users and Nelso suggests the beneficial

of acknowledge collision, such as the transmitter will know the collision therefore

eliminate further transmission, in order to achieve better bit error rate, they are in the

analogues art of collision detection and avoidance.

Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over of

Nelson (2001/0033579) in view of Hottinen (2002/0105961).

34.   As per claim 15, **Hottinen teaches** a communications protocol for use in a radio

frequency network of devices, the protocol having a frame including;

35.   a first time slot for transmitting data **(Fig. 1, transmission 1)**;

36.   a second time slot, after the first time slot, for transmitting a first

acknowledgement state **([0045]: first feedback is after receive the transmission,**

thus after first time slot);

37.   a third time slot, after the second time slot, for transmitting a second

acknowledgement state **([0045]: second feedback has different time slot as first**

one, and the word first and second just labels, they are inter-changeable, as long

as they are in the different time slot and after first time slot);

38.   **Hottinen doesn't teach** and a fourth time slot, after the third time slot, for

transmitting a collision indication.

Nelson teaches and a fourth time slot, after the third time slot, for transmitting a collision indication **(Fig. 5, #540, teaches the collision indication and the only reason to have different slot for specific type of data is to let receiver know what type of data it is getting in a specific slot)**.

39.   Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Nelson into Hottinen, since Hottinen suggests use different type of Ack signal in different time slot and Nelso suggests the beneficial of acknowledge collision, such as the transmitter will know the collision therefore eliminate further transmission, in order to achieve better bit error rate, they are in the analogues art of wireless communication protocol.

40.

As per claim 16, **Hottinen and Nelson teaches** a communications protocol according to claim 15 wherein one of the acknowledgement states is a positive acknowledge and the other acknowledgement state is a negative acknowledge **([0045]: first feedback and second feedback. Knowing that positive & negative acknowledge just label without any definition and they are not the standard term)**

As per claim 17, **Hottinen and Nelson teaches** a communications protocol according to claim 16 wherein the first acknowledgement state is the positive acknowledge and the second acknowledgement state is the negative acknowledge **([0045]: first feedback and second feedback. Knowing that positive & negative acknowledge**

just label without any definition and they are not the standard term).

41.   **Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Nelson (2001/0033579) in view of Hottinen (2002/0105961) and further in view of Dail (5570355).**

42.   As per claim 18, **Hottinen and Nelson teaches** a communications protocol according to claim 15, **Hottinen and Nelson do not teach** wherein the first time slot is variable in length and the second and third time slots are fixed in length.

Dail teaches wherein the first time slot is variable in length and the second and third time slots are fixed in length **(col. 16, line 20-24: mention the variable length and fixed length of time slot under different realization. And col. 28, line 30-35: specifically said first region has variable slot and second has fixed slot. Know the word region include a set of time slot thus third time slot in this claim can be include in the second region. Furthermore, the different between first and second, third time slot is their direction of transmission, they belong to different type of signal, thus they are teach by the first and second region)**.

43.   Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Dail into Hottinen, since Hottinen suggests use different type of Ack signal in different time slot and Dail suggests the different length time for different time slots, such as different length may be more

suitable for different type of data, thus reliable transmission, they are in the analogues

art of wireless communication protocol.

44.

As per claim 19, **Hottinen, Nelson and Dail teaches** a communications protocol

according to claim 18

45.   **Hottinen teaches** wherein the positive acknowledge transmission **(Fig. 1,**

feedback signal)

46.   **Hottinen and Nelson do not teach** includes the transmission of a specific

coded value containing sufficient redundancy to allow it to be recovered in the presence

of received errors.

Dail teaches includes the transmission of a specific coded value containing sufficient

redundancy to allow it to be recovered in the presence of received errors **(col. 12, line**

67).

47.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Dail into Hottinen, since Hottinen

suggests to use Ack signal and Dail suggests the redundancy check at the signal, such

as to use redundancy check will correct error, they are in the analogues art of wireless

communication protocol.

48.

As per claim 20, **Hottinen, Nelson and Dail teaches** a communications protocol

according to claim 18,

49.   **Hottinen teaches** wherein the negative acknowledge transmission **(Fig. 1,**

feedback signal)

50.   **Hottinen and Nelson do not teach** includes the transmission of a specific

coded value containing sufficient redundancy to allow it to be recovered in the presence

of received errors.

Dail teaches includes the transmission of a specific coded value containing sufficient

redundancy to allow it to be recovered in the presence of received errors **(col. 12, line**

67).

51.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Dail into Hottinen, since Hottinen

suggests to use Ack signal and Dail suggests the redundancy check at the signal, such

as to use redundancy check will correct error, they are in the analogues art of wireless

communication protocol.

Claims 21-23, 26-29, 31-32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over of Hottinen (2002/0105961) and in view of Farley

(2002/0101839).

52.   As per claim 21, **Farley teaches** a radio communication system **(Fig. 1)** including

a transceiver/transmitter **(Fig. 1, #18)**, and at least two transceiver/receivers **(Fig. 1,**

#12-1, 12-2, ...), wherein the transceiver/transmitter transmits data in a first time slot to

the transceiver/receivers **(Fig. 1, #40: the FWD link to forward data to subscribers)**,

and wherein upon receipt of the data, each of the transceiver/receivers return either a

first acknowledgement state in a second time slot, after the first time slot **([0008]:**

multiple acknowledgments is send in the different time slots, this also provide

reason to combine),

53.   **Farley doesn't teach** a second acknowledgement state in a third time slot, after

the second time slot, or a collision acknowledgement in a fourth time slot.

54.   **Hottinen teaches** a second acknowledgement state in a third time slot, after the

second time slot **(Fig. 1, and [0045]. Transmission 1 or 2 is in the first time slot and**

feedback is in the second and third time slot. Also it is reasonable to assume first

feedback is before second feedback, thus first feedback is in the second time

slot, and second feedback in the third time slot), or a collision acknowledgement in

a fourth time slot.

Thus it would have been obvious to one of ordinary skill in the art at the time of the

invention was made to implement the teachings of Hottinen into Farley, since Farley

suggests to use multiple Ack signal in different time slot and Hottinen suggests specific

feedback in a particular time slot, such as to easier for receiver to know what kind of

signal is received at particular time slot, they are in the analogues art of wireless

communication protocol.

55.

As per claim 22, **Farley and Hottinen teaches** a radio communications system

according to claim 21, **Farley doesn't teach** wherein one of the acknowledgement

states is a positive acknowledge and the other acknowledgement state is a negative acknowledge.

56.   **Hottinen teaches** wherein one of the acknowledgement states is a positive acknowledge and the other acknowledgement state is a negative acknowledge.

57.   **([0045]: first feedback and second feedback. Knowing that positive & negative acknowledge just label without any definition and they are not the standard term)**.

Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Hottinen into Farley, since Farley suggests to use multiple Ack signal in different time slot and Hottinen suggests specific name (or different kind) for each feedback in particular time slot, such as to easier for receiver to know what kind of signal is received at particular time slot, they are in the analogues art of wireless communication protocol.

58.   As per claim 23, **Farley and Hottinen teaches** a radio communications system according to claim 22, **Farley doesn't teach** wherein the first acknowledgement state is the positive acknowledges and the second acknowledge state is the negative acknowledge.

59.   **Hottinen teaches** wherein the first acknowledgement state is the positive acknowledges and the second acknowledge state is the negative acknowledge.

60.   **([0045]: first feedback and second feedback. Knowing that positive &**

negative acknowledge just label without any definition and they are not the

standard term).

61.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Hottinen into Farley, since Farley

suggests to use multiple Ack signal in different time slot and Hottinen suggests specific

name (or different kind) for each feedback in particular time slot, such as to easier for

receiver to know what kind of signal is received at particular time slot, they are in the

analogues art of wireless communication protocol.

62.   As per claim 26, **Farley teaches** a transceiver/receiver **(Fig. 1, #18)** for use in a

radio communications system **(Fig. 1)** including at least one transceiver/transmitter **(Fig.**

1, #18) and at least one other transceiver/receiver **(Fig. 1, #12-1, 12-2, …)**, in use, the

transceiver/receiver upon receiving a data packet in a first time slot from said

transceiver/transmitter **(Fig. 1, #40: the FWD link to forward data to subscribers)**,

either transmits a first acknowledgement state in a second time slot, after the first time

slot **([0008]: multiple acknowledgments is send in the different time slots, this**

also provide reason to combine),

63.   **Farley doesn't teach** transmits a second acknowledgement state in a third time

slot, after the second time slot, or transmits a collision acknowledgement state in a

fourth time slot, after the third time slot.

Hottinen teaches transmits a second acknowledgement state in a third time slot, after

the second time slot **(Fig. 1, and [0045]. Transmission 1 or 2 is in the first time slot**

and feedback is in the second and third time slot. Also it is reasonable to assume

first feedback is before second feedback, thus first feedback is in the second time

slot, and second feedback in the third time slot), or transmits a collision

acknowledgement state in a fourth time slot, after the third time slot.

64.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Hottinen into Farley, since Farley

suggests to use multiple Ack signal in different time slot and Hottinen suggests specific

feedback in a particular time slot, such as to easier for receiver to know what kind of

signal is received at particular time slot, they are in the analogues art of wireless

communication protocol.

65.   As per claim 27, **Farley and Hottinen teaches** a transceiver/receiver according

to claim 26, **Farley teaches** wherein the transceiver/receiver **(Fig. 1, #18)** further

receives the first acknowledgement state in the second time slot **([0008]: it can be said**

that acknowledgement is in the second slot, because it is after forward data in

Fig. 1, #40 in the first slot) from the at least one other transceiver/receiver **(Fig. 1,**

#12-1, #12-2, …) or receives the second acknowledgement state in the third time slot

from the at least one other transceiver/receiver.

As per claim 28, **Farley and Hottinen teaches** a transceiver/receiver according to claim

27, **Farley doesn't teach** wherein one of the acknowledgement states is a positive

acknowledge and the other acknowledgement states is a negative acknowledge

66.   **Hottinen teaches** wherein one of the acknowledgement states is a positive

acknowledge and the other acknowledgement states is a negative acknowledge

67.   **([0045]: first feedback and second feedback. Knowing that positive &**

negative acknowledge just label without any definition and they are not the

standard term).

68.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Hottinen into Farley, since Farley

suggests to use multiple Ack signal in different time slot and Hottinen suggests specific

name (or different kind) for each feedback in particular time slot, such as to easier for

receiver to know what kind of signal is received at particular time slot, they are in the

analogues art of wireless communication protocol.

69.   As per claim 29, **Farley and Hottinen teaches** a transceiver/receiver according

to claim 28, **Farley doesn't teach** wherein the first acknowledgement state is the

positive acknowledge and the second acknowledgement state is the negative

acknowledge.

Hottinen teaches wherein the first acknowledgement state is the positive acknowledge

and the second acknowledgement state is the negative acknowledge **([0045]: first**

feedback and second feedback. Knowing that positive & negative acknowledge

just label without any definition and they are not the standard term).

70.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Hottinen into Farley, since Farley

suggests to use multiple Ack signal in different time slot and Hottinen suggests specific

name (or different kind) for each feedback in particular time slot, such as to easier for

receiver to know what kind of signal is received at particular time slot, they are in the

analogues art of wireless communication protocol.

71.   As per claim 31, **Farley teaches** a transceiver/transmitter **(Fig. 1, #18)** for use in

a communications system **(Fig. 1)** including at least one other transceiver/receiver **(Fig.**

1, #12-1, 12-2, …), wherein in use, the transceiver/transmitter **(Fig. 1, #18)** transmits a

data packet in a first time slot **(Fig. 1, #40: data packet is transmits to #12-1, #12-2**

…) to the at least one transceiver/receiver **(Fig. 1, #12-1, 12-2, …)** and receives either a

first acknowledge state in a second time slot, after the first time slot from one **([0008]:**

multiple acknowledgments is send in the different time slots, this also provide

reason to combine), or more of the transceivers/receivers, …or more of the

transceiver/receivers, or receives a collision acknowledgement state in a fourth time slot

after the third time slot, from one or more of the transceiver/receivers.

72.   **Farley doesn't teach** receives a second acknowledgement state in a third time

slot after the second time slot from one …

73.   **Hottinen teaches** receives a second acknowledgement state in a third time slot

after the second time slot from one **(Fig. 1, and [0045]. Transmission 1 or 2 is in the**

first time slot and feedback is in the second and third time slot. Also it is

reasonable to assume first feedback is before second feedback, thus first

feedback is in the second time slot, and second feedback in the third time slot) ...

74.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Hottinen into Farley, since Farley

suggests to use multiple Ack signal in different time slot and Hottinen suggests specific

feedback in a particular time slot, such as to easier for receiver to know what kind of

signal is received at particular time slot, they are in the analogues art of wireless

communication protocol.

75.   As per claim 32, **Farley and Hottinen teach** a transceiver/transmitter according

to claim 31, **Farley doesn't teach** wherein one of the acknowledgement states is a

positive acknowledge and the other acknowledgement state is a negative acknowledge.

Hottinen teaches wherein one of the acknowledgement states is a positive

acknowledge and the other acknowledgement state is a negative acknowledge **([0045]:**

first feedback and second feedback. Knowing that positive & negative

acknowledge just label without any definition and they are not the standard term).

76.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Hottinen into Farley, since Farley

suggests to use multiple Ack signal in different time slot and Hottinen suggests specific

name (or different kind) for each feedback in particular time slot, such as to easier for

receiver to know what kind of signal is received at particular time slot, they are in the

analogues art of wireless communication protocol.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hottinen

(2002/0105961) and in view of Farley (2002/0101839) and further in view of Dail

(5570355).

77.   As per claim 24, **Farley and Hottinen teaches** a radio communications system

according to claim 21, **Farley and Hottinen do not teach** wherein the first time slot is

variable in length and the second and third time slots are fixed in length.

Dail teaches wherein the first time slot is variable in length and the second and third

time slots are fixed in length **(col. 16, line 20-24: mention the variable length and**

fixed length of time slot under different realization. And col. 28, line 30-35:

specifically said first region has variable slot and second has fixed slot. Know the

word region include a set of time slot thus third time slot in this claim can be

include in the second region. Furthermore, the different between first and second,

third time slot is their direction of transmission, they belong to different type of

signal, thus they are teach by the first and second region).

78.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Dail into Hottinen, since Hottinen

suggests use different type of Ack signal in different time slot and Dail suggests the

different length time for different time slots, such as different length may be more

suitable for different type of data, thus reliable transmission, they are in the analogues

art of wireless communication protocol.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hottinen

(2002/0105961) and in view of Farley (2002/0101839) and further in view of

Makinen (6804533).

79.   As per claim 30, **Farley and Hottinen teaches** a transceiver/receiver according

to claim 29, **Hottinen teach** wherein upon receiving a negative acknowledge from the at

least one other transceiver/receivers **(Fig. 1, #18 receiving acknowledge for one of**

the #12-1, #12-2, etc.,),…

80.   **Farley and Hottinen do not teach** the transceiver/receiver discards the data

packet received in the first time slot.

81.   **Makinen teaches** the transceiver/receiver discards the data packet received in

the first time slot **(col. 8, line 39-43: a Ack signal is sent to home location register to**

delete the previous data).

Thus it would have been obvious to one of ordinary skill in the art at the time of the

invention was made to implement the teachings of Hottinen into Farley, since Farley

suggests to use multiple Ack signal in different time slot and Hottinen suggests specific

name (or different kind) for each feedback in particular time slot, such as to easier for

receiver to know what kind of signal is received at particular time slot, they are in the

analogues art of wireless communication protocol.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hottinen

(2002/0105961) and in view of Farley (2002/0101839) and further in view of Souissi

(2002/0075891).

82.   As per claim 34, **Farley teaches** a communications protocol **([0053]: wireless**

protocol) for use in a radio frequency network of devices **(Fig. 1)**, the protocol having a

frame **([0053]: IP packets)** including a first time slot for transmitting data **(Fig. 1, #40,**

the FDW link),

83.   **Farley doesn't teaches** a second time slot, after the first time slot, for indicating

a repeat flag, and a third time slot, after the second time slot, for retransmitting the data

transmitted in the first time slot and a fourth time slot, after the third time slot, for

allowing acknowledgement of a collision between two or more transmissions.

84.   **Hottinen teaches** a second time slot, after the first time slot, for indicating ... ,

and a third time slot, after the second time slot, for **([0045]: the first feedback is after**

the first slot (forward transmission slot), thus the first feedback is considered as

in second slots, so that the second feedback in the third slot.)...

85.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Hottinen into Farley, since Farley

suggests to use multiple Ack signal in different time slot and Hottinen suggests specific

name (or different kind) for each feedback in particular time slot, such as to easier for

receiver to know what kind of signal is received at particular time slot, they are in the

analogues art of wireless communication protocol.

86.   **Farley and Hottinen do not teach** ... a repeat flag ... retransmitting the data

transmitted in the first time slot ... a fourth time slot, after the third time slot for allowing

acknowledgement of a collision between two or more transmissions

87.   **Souissi teaches** ... a repeat flag **([0031]: acknowledgment message ...**

repeat transmissions, note the retransmission is after collision, which is reported

by acknowledgment message) ... retransmitting the data transmitted in the first time

slot **([0031]: retransmissions, note the retransmission is cause by**

acknowledgement and further the ack is based on the collision, thus

retransmission the message gets collision, So it is the message in the first time

slot) ... a fourth time slot, after the third time slot for allowing acknowledgement of a

collision between two or more transmissions **([0031]: acknowledgments are needed**

after a collision. Note, because Farley teaches the structure of this claim, with

multiple ack signal send back to the transmitter, and Hottinen suggest different

ack signal send back at the different time slot, and further more Souissi suggest

ack signal can be in various forms with different functionality. For the above

reason [0031], teach the this limitation)

88.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Souissi into Hottinen, since

Hottinen suggests to use specific name (or different kind) for each feedback in a

particular time slot, and Souissi teaches the ack signal be different type and has

different purpose, such as to has different purpose ack signal will let design more

flexibility to design between system, they are in the analogues art of wireless

communication protocol.

Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over of LoGalbo

(2002/0093928) and in view of Mollenkopf (2003/0169155) and further in view of

Kramer (2003/0161316).

89.   As per claim 42, **LoGalbo teaches** a radio communication system **(Fig. 1, #114)**

including a first transceiver, a second transceiver **(Fig. 1, #114, #108)** and

90.   a repeater **(Fig. 1, #102)** ... and the repeater being located intermediate the first

and second transceivers **(Fig. 1, repeater is between tower #114 and server # 132),**

... wherein upon receiving data from one of either the first or second transceivers in a

first time slot **([0026]: receive first block form first device)** the repeater transmits a

repeater flag in a second time slot, and ... data received in the first time slot **([0026]:**

ack signal and the data for second device is sent, First repeater flag is a flag send

by repeater, thus it can be a acknowledgement. Second in [0026] stayed in first

block of data is received and repeater forms a second block for second device,

and it is inherent that the second block is the first block, because this is the

function of a repeater).

91.   **LoGalbo doesn't teach** the first and second transceivers being separated from

each other by a distance greater than at least one of their respective maximum

transmission ranges.

92.   **Mollenkopf teaches** the first and second transceivers being separated from

each other by a distance greater than at least one of their respective maximum

transmission ranges **([0046])**

93.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Mollenkpf into LoGalbo, because

LoGalbo has repeater, but doesn't specifically specify a general function of repeater, but

Mollenkpf specified one of repeater's function being the first and second transceivers

being separated from each other by a distance greater than at least one of their

respective maximum transmission ranges, they are in the analogues art of wireless

communication protocol.

94.   LoGalbo and Mollenkopf do not teach ... then in a third time slot transmits

the...

95.   Kramer teaches... then in a third time slot transmits the... **([0057]: data is

transmit in third time slot, in general Kramer teaches the idea of different type of

data was sent in different slot)**

96.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Kramer into LoGalbo, since

LoGalbo suggests to use repeater transmit data between two transceiver, and Kramer

teaches different data is sending is different time slot, such that receiver will know what

kind of data is receiving at the time, which reduce the overhead, they are in the

analogues art of wireless communication protocol.

**Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over of LoGalbo

(2002/0093928) and in view of Mollenkopf (2003/0169155) and further in view of

Kramer (2003/0161316) and Nelson (2001/0033579).**

97.   As per claim 46, **LoGalbo teaches** a repeater **(Fig. 1, #102)** for use in a radio

communication system **(Fig. 1)** including at least two transceivers **(Fig. 1, #114, #108)**,

98.   **LoGalbo doesn't teach** the at least two transceivers being separated from each

other by a distance greater than at least one of the respective transmitting ranges, in

use, the repeater being disposed intermediate the at least two transceivers

99.   **Mollenkopf teaches** the at least two transceivers being separated from each

other by a distance greater than at least one of the respective transmitting ranges, in

use, the repeater being disposed intermediate the at least two transceivers. **([0046])**

100.   wherein upon receiving data in a first time slot **([0026]: receive first block form**

first device), the repeater transmits a repeat flag in a second time slot, ..., the data

received in the first time slot, **([0026]: ack signal and the data for second device is**

sent, First repeater flag is a flag send by repeater, thus it can be a

acknowledgement. Second in [0026] stayed in first block of data is received and

repeater forms a second block for second device, and it is inherent that the

second block is the first block, because this is the function of a repeater.),

101.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Mollenkpf into LoGalbo, because

LoGalbo has repeater, but doesn't specifically specify a general function of repeater, but

Mollenkpf specified one of repeater's function being the first and second transceivers

being separated from each other by a distance greater than at least one of their

respective maximum transmission ranges, they are in the analogues art of wireless communication protocol.

102.   **LoGalbo and Mollenkopf do not teach** …data transmits in a third time slot … and and then transmits in a fourth time slot, a collision acknowledge, if a collision has occurred between two or more transmissions. In Mollenkopf teach the data and flag transmit together in second slot.

103.   **But Kramer teaches** …data transmits in a third time slot **([0057]: data is transmit in third time slot, in general Kramer teaches the idea of different type of data was sent in different slot)** … and then transmits in a fourth time slot, **([0059]: Kramer teaches the idea of different type of data was sent in different slot)**…

104.   Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Kramer into LoGalbo, since LoGalbo suggests to use repeater transmit data between two transceiver, and Kramer teaches different data is sending is different time slot, such that receiver will know what kind of data is receiving at the time, which reduce the overhead, they are in the analogues art of wireless communication protocol.

105.   **LoGalbo, Mollenkopf and Kramer do not teach** a collision acknowledge, if a collision has occurred between two or more transmissions.

106.   **Nelson teaches** a collision acknowledge, if a collision has occurred between two

or more transmissions **(Fig. 5 #540)**.

107.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Nelso into LoGalbo, since

LoGalbo suggests to use repeater transmit data between two transceiver and Nelso

suggests the beneficial of acknowledge collision, such as the transmitter will know the

collision therefore eliminate further transmission, in order to achieve better bit error rate,

they are in the analogues art of collision detection and avoidance.

Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over of LoGalbo

(2002/0093928) and in view of Mollenkopf (2003/0169155) and further in view of

Souissi (2002/0075891).

108.   As per claim 47, **LoGalbo teaches** a transceiver for use in a radio

communication system **(Fig. 1, #114)** including at least one other transceiver **(Fig. 1,**

#114, #108) and a repeater **(Fig. 1, #102)**, ... in use, the repeater being disposed

intermediate the transceiver and the at least one other transceiver **(Fig. 1, repeater is**

between tower #114 and server # 132), wherein upon receiving a repeat flag from the

repeater,

109. **LoGalbo doesn't teach** the transceiver and the at least one other transceiver

being separated from each other by a distance greater than at least one of their

respective transmitting ranges,

110. **Mollenkopf teaches** the transceiver and the at least one other transceiver being

separated from each other by a distance greater than at least one of their respective

transmitting ranges **([0046])**,

111. Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Mollenkpf into LoGalbo, because

LoGalbo has repeater, but doesn't specifically specify a general function of repeater, but

Mollenkpf specified one of repeater's function being the first and second transceivers

being separated from each other by a distance greater than at least one of their

respective maximum transmission ranges, they are in the analogues art of wireless

communication protocol.

112. **LoGalbo and Mollenkopf do not teach** wherein upon receiving a repeat flag

from the … in the second time slot, the transceiver suspends further action until the

transceiver receives from the repeater, in a third time slot, data that was originally

transmitted by the at least one other transceiver in a first time slot, before the second

time slot.

113.   Souissi teaches wherein upon receiving a repeat flag from the ... **([0031]:**

acknowledgment message … repeat transmissions, note the retransmission is

after collision, which is reported by acknowledgment message), in the second time

slot, the transceiver suspends further action until the transceiver receives from ... **(it is**

inherent, because in [0031] acknowledgment is involved in the protocol, thus

transceiver will be designed as wait unit receive the ack signal), in a third time slot,

data that was originally transmitted by the at least one other transceiver in a first time

slot, before the second time slot **([0031]: retransmissions, note the retransmission is**

cause by acknowledgement and further the ack is based on the collision, thus

retransmission the message gets collision, So it is the message in the first time

slot).

114.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Souissi into LoGalbo, since

LoGalbo suggests to use repeater to transmit and feedback in a particular time slot,

and Souissi teaches the ack signal be different type and has different purpose, such as

to has different purpose ack signal will let design more flexibility to design between

system, they are in the analogues art of wireless communication protocol.

Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over of LoGalbo

(2002/0093928) and in view of Mollenkopf (2003/0169155) and further in view of

Souissi (2002/0075891) and Watanabe (6317854) and Kramer (2003/0161316).

115.　As per claim 48, **LoGalbo, Mollenkopf, and Souissi teach** a transceiver according to claim 47

116.　**LoGalbo, Mollenkopf and Souissi do not teach** wherein the transceiver transmits an acknowledgement indicating the successful or unsuccessful receipt of the data transmitted in the third time slot, or the occurrence of a collision occurring between two or more transmissions.

117.　**Watanabe teaches** wherein the transceiver transmits an acknowledgement indicating the successful or unsuccessful receipt of the data transmitted **(col. 2, line 65 – col. 3, line 5)** ..., or the occurrence of a collision occurring between two or more transmissions.

118.　**LoGalbo, Mollenkopf, Souissi and Watanabe do not teach** ...data transmitted in the third time slot...

119.　**Kramer teaches** ...data transmitted in the third time slot **(data is transmit in third time slot, in general Kramer teaches the idea of different type of data was sent in different slot)**...

120.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Kramer into LoGalbo, since

LoGalbo suggests to use repeater transmit data between two transceiver, and Kramer

teaches different data is sending is different time slot, such that receiver will know what

kind of data is receiving at the time, which reduce the overhead, they are in the

analogues art of wireless communication protocol.

Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over of LoGalbo

(2002/0093928) and in view of Mollenkopf (2003/0169155) and further in view of

Allen (5563728).

121.   As per claim 51, **LoGalbo teaches** a radio communication system **(Fig. 1)**

including at least a first transceiver, a second transceiver **(Fig. 1, #114, #108)** and a

repeater **(Fig. 1, #102)**, … the repeater being disposed intermediate the first and

second transceivers **(Fig. 1, repeater is between tower #114 and server # 132)**,

122.   such that upon receipt of a data transmission from the first transceiver, the

repeater retransmits the data transmission from the first transceiver **([0026]: ack signal**

and the data for second device is sent, First repeater flag is a flag send by

repeater, thus it can be a acknowledgement. Second in [0026] stayed in first block

of data is received and repeater forms a second block for second device, and it is

inherent that the second block is the first block, because this is the function of a

repeater).

123.   wherein, upon receipt of a data transmission from the second transceiver before

the repeater retransmits the data transmission from the first transceiver, **([0026]:**

"receive first block form first device," and it is before transmit second block of

data (second block is from the first device) to second device)

124.   LoGalbo doesn't teach the first transceiver and the second transceiver being

separated by a distance greater than a maximum transmission range of at least one of

the transceivers,

125.   **Mollenkopf teaches** the first transceiver and the second transceiver being

separated by a distance greater than a maximum transmission range of at least one of

the transceivers, **([0046])**

126.   **LoGalbo and Mollenkopf do not teach** wherein, upon receipt of a data

transmission from the second transceiver before the repeater retransmits the data

transmission from the first transceiver, the repeater transmits a data sequence

instructing each transceiver to ignore the transmission in progress.

127.   **Allen teaches** the repeater transmits a data sequence instructing each

transceiver to ignore the transmission in progress **(col. 7, line 50-55: ignore**

transmission because packet has D-sync prefix, which is send by repeater,

furthermore instructing the transceiver #76, 78, 80 to ignore the transmission).

128.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Allen into LoGalbo, since

LoGalbo suggests to use repeater transmit data between two transceiver, and Allen

teaches a standard function of repeater to let the irrelevant transceivers not to listen the

transmission, such that save the irrelevant transceiver trouble to receiver irrelevant

data, they are in the analogues art of wireless communication protocol.

Claims 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over of

LoGalbo (2002/0093928) and in view of Mollenkopf (2003/0169155) and further in

view of Allen (5563728) and Parsa (6480525).

129.   As per claim 52, **LoGalbo, Mollenkopf, and Allen teach** a radio communication

system according to claim 51, **LoGalbo, Mollenkopf, and Allen do not teach** wherein

respective transmissions of the first and second transceivers are headed by a sequence

coded such as to be perceived as a collision by a device receiving the transmissions

overlapped in time.

Parsa teaches wherein respective transmissions of the first and second transceivers

are headed by a sequence coded **(col. 3, line 55-65: collision detection signature)**

such as to be perceived as a collision by a device receiving the transmissions

overlapped in time **(Fig. 2, collision packet are overlap in time)**.

130.   Thus it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to implement the teachings of Parsa into LoGalbo, since

LoGalbo suggests to use repeater transmit data between two transceiver, and Parsa

teaches a standard way to detect collision, such to detect collision and avoid further

collision will improve communication quality, they are in the analogues art of wireless

communication protocol.

131.

As per claim 53, **LoGalbo, Mollenkopf, Allen and Parsa teach** a radio communication

system according to claim 52,

132.   **LoGalbo teaches** … the repeater …

133.   **LoGalbo, Mollenkopf, and Allen do not teach** wherein the data sequence

transmitted by …begins with a sequence coded such as to be perceived as a collision

when received by a receiving device

134.   **Parsa teaches** wherein the data sequence transmitted by …begins with a

sequence coded such as to be perceived as a collision when received by a receiving

device **(col. 3, line 55-65: collision detection signature)**.

Thus it would have been obvious to one of ordinary skill in the art at the time of the

invention was made to implement the teachings of Parsa into LoGalbo, since LoGalbo

suggests to use repeater transmit data between two transceiver, and Parsa teaches a

standard way to detect collision, such to detect collision and avoid further collision will

improve communication quality, they are in the analogues art of wireless communication

protocol.

135.

Allowable Subject Matter

136.   Claims 7, 11, 25, 33, 35-41, 43-45, 49-50, 54-60 are objected to as being

dependent upon a rejected base claim, but would be allowable if rewritten in

independent form including all of the limitations of the base claim and any intervening

claims.

Conclusion

a.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to FAN NG whose telephone number is

(571)270-3690. The examiner can normally be reached on Monday-Friday;

7:30am-5:30pm.

b.   If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Pankaj Kumar can be reached on (571)272-3011. The

fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

c.   Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

137.   138.

139.   /F. N./
140.   Examiner, Art Unit 4145

/Pankaj Kumar/

Supervisory Patent Examiner, Art Unit 4145